EE4266 Assignment-3&4

2D Shape Detection (A-3, 15% CA)

The objective of this assignment is to detect the letter “C” and digit “2” in the provided image, using Matlab or any other programming language such as C/C++， Python.

1. Cut out the letter “C” and digit “2” from the top left corner, and store them as templates, and construct the DFT after edge detection and contour following. A sample code is provided.

2. Detect all the “C” and “2” in the image using the Fourier Descriptors.

3. Marking:

   The objective is to detect all “C” and “2” on the image. Write a report to describe your design and results, for example, how do you solve the detection issue on scale and orientation. The report is a team work of 1~2 people. Submit a soft copy before 06-11-2020 via NTUlearn. Zip the report and source code together. Submit one report per team. Everyone will submit, and you will state your teammate’s name in the report.

Live Demonstration and Presentation (A-4, 15 % CA)

The presentation will be in week 12 or 13. It is first in first serve, pre-scheduled booking is not available. You start a Teams/Zoom meeting and invite me to join (hw@ntu.edu.sg).

The presentation should include all team members. Q&A is expected for all members. You will need 2 notebooks, and the presentation will take place in one physical room/lab, one computer for presentation, one with camera to overview the presentation room. The demonstration code should match your submission. You may record the presentation.